REMARKS

Prior to this Amendment, claims 21-30 were pending. By this Amendment, new claims 31-36 have been added. Thus, claims 21-36 are now pending.

Support for new claims 31-36 is found in the specification as follows:

Support for new claim 31 is found in the specification at page 5, lines 12-13; and in Figures 1 and 2.

Support for new claim 32 is found in the specification at page 12, lines 6-28; Figures 1 and 2; and page 5, line 13.

Support for new claim 33 is found in the specification at page 12, line 4 to page 14, line 13.

Support for new claim 34 is found in the specification at page 12, line 10.

Support for new claim 35 is found in the specification at page 12, lines 13-14.

Support for new claim 36 is found in the specification at page 12, lines 15-28; and Figures 1 and 2.

Claim objections

Claims 23 and 28 were objected to because of the spelling "hemophilus." This word has been amended to read "haemophilus," as suggested in the Office Action.

The Applicants do not agree that claims 26-30 are substantial duplicates of claims 21-25, but defer addressing this issue until such time as claims are allowed.

The rejection under 35 U.S.C. §112

Claim 22 was rejected as indefinite because of the recitation of "the vaccine of claim 21 further comprising antigenic material of other viruses or microorganisms known to be bovine pathogens." The Office Action stated that this phrase lacks antecedent basis because M. bovis and M. alkalescens are not viruses.

Claim 22 has been amended to recite "further comprising antigenic material of viruses or microorganisms other than *Mycoplasma bovis* and *Mycoplasma alkalescens* known to be bovine pathogens." Accordingly, it is respectfully requested that this rejection be withdrawn. Claim 27 has been similarly amended.

The rejection under 35 U.S.C. §103(a)

Claims 21-30 were rejected as being obvious over Stott et al., The Veterinary Record, October 10, 1987, pages 342-347 (Stott), in view of Poumarat et al., 1994, Vet. Microbiol. 40:305-321 (Poumarat), in view of Gourlay et al., 1979, Res. Vet. Sci. 27:233-237, and further in view of Chima et al., 1980, Vet. Microbiol. 5:113-122.

The Applicants traverse this rejection because the cited art teaches away from the present invention. Claims 21-30 all require at least two *Mycoplasma bovis* biotypes and Poumarat teaches away from the use of more than one biotype. Poumarat divided *Mycoplasma bovis* isolates into 13 different "genomic groups." Poumarat then looked at the antigenic variability between and among these genomic groups. Although Poumarat found much antigenic variability, this variability did not correlate with membership in any particular genomic group. In other words, the same amount of antigenic variability could be found within groups as between groups. See page 318, 2nd paragraph:

> Antigenic profiles of the *M. bovis* strains obtained by immunoblotting with J008 calf serum differed markedly one from the other, the heterogeneity being equally great among strains belonging to the same genomic group and those coming from different genomic groups. There appeared to be no relation between the genomic variability of *M. bovis* and the antigenic variability ...

Because Poumarat teaches that antigenic variability is as great within *Mycoplasma bovis* groups as across *Mycoplasma bovis* groups, Poumarat teaches that there would be

no gain in antigenic variability from including more than one type of *Mycoplasma bovis* in a vaccine. That is, there would be no point in having more than one type of *Mycoplasma bovis* in a vaccine. Poumarat thus discourages one of ordinary skill in the art from including more than one biotype in a vaccine.

Poumarat's teaching away is especially pertinent in connection with new claims 31-36. These claims all require that the at least two biotypes be genetically different, as judged by analysis of DNA or RNA. Poumarat teaches that such genetic differences are irrelevant with respect to antigenicity since Poumarat teaches that there appears to be "no relation between the genomic variability of *M. bovis* and the antigenic variability." One of ordinary skill in the art would interpret this as a teaching that nothing is to be gained from including biotypes that are genetically different in a vaccine and thus would be led away from the invention of claims 31-36.

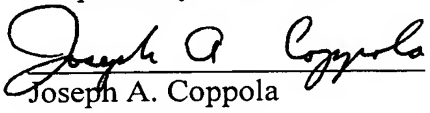
In view of the above, it is respectfully requested that this rejection be withdrawn.

The time for responding to the Office Action was set for September 1, 2005. Enclosed herewith is a Petition for the Extension of Time under 37 C.F.R. § 1.136(a) for a period sufficient to permit the filing of this response. Please charge any corresponding fees for the Petition to Kenyon & Kenyon's Deposit Account No. 11-0600.

The Applicants hereby make a Conditional Petition for any relief available to correct any defect seen in connection with this filing, or any defect seen to be remaining in this application after this filing. The Commissioner is authorized to charge Kenyon & Kenyon's Deposit Account No. 11-0600 for the Petition fee and any other fees required to effect this Conditional Petition.

Respectfully submitted,

Dated: OCTOBER 25, 2005



Joseph A. Coppola
Reg. No. 38,413

KENYON & KENYON
One Broadway
New York, NY 10004
Tel.: (212) 452-7200
Fax: (212) 452-5288